

Evolution, innovation and entrepreneurship in emerging industries

Introduction to the special issue

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In recent years scholars in the field of economic geography have become interested in the question how industries evolve and how this industrial evolution shapes geographic location patterns. In looking at these questions, economic geographers have engaged in discussions around a paradigmatic shift in the field in which economic processes and their locational characteristics are no longer seen as being abstract from the social and cultural context. This paradigmatic shift is often referred to as the relational turn in economic geography (BAHTELT & GLÜCKLER 2003; YEUNG 2005). Closely associated with these discussions are discourses around questions about industry evolution and change, which have been taken up by evolutionary economic geographers (BOSCHMA & LAMBOOY 1999). In both perspectives, spatial outcomes of economic activities are no longer the product of certain attributes of locations (e.g. costs associated with transporting goods). Instead, economic actors such as firms and entrepreneurs shape places and they do so through their relationships with other economic actors at different geographic scales.

Against this background, authors who contributed to this issue of *GEOGRAPHICA HELVETICA* examine the evolution of, as well as, innovation and entrepreneurship dynamics in emerging industries such as the wind industry, water recycling industry, athletic and outdoor industry and food retail industry. Together these articles present not only empirically grounded insights into questions of industrial location patterns but they also employ new methods in relational and evolutionary economic geography.

The focus of this issue is on emerging industries because they are often associated with growth dynamics, geographic clustering, innovation processes and entrepreneurship (FELDMAN & LENDEL 2010). FELDMAN and LENDEL (2010) define emerging industries as «the fusion of a new technology with prior antecedent technologies» (p. 149). Such emerging industries

«blend incremental technical improvements from several previously separate fields of technology to create products that revolutionize markets» (KODAMA 1992 cited in FELDMAN & LENDEL 2010: 149).

These characteristics make emerging industries particularly relevant for studies in economic geography. Emerging industries are often characterized by «win-

dows of locational opportunity» (STORPER & WALKER 1989) because there are no set locational requirements and such industries are more able to shape their regional environment and the resources they need.

Emerging industries and their geographic location patterns are of interest to geographers because they exhibit certain characteristics particularly as they relate to knowledge spillovers, geographic proximity and networks that are central to studies in relational and evolutionary studies. Yet, there are aspects of the emerging industries' location patterns that have not been examined in detail and there are still many questions left unanswered. To what extent does public policy help or hinder the emergence of new technologies and in turn the development of new industries? What is the role of technologies and innovations in industries that are closely associated or related to those that geographers are examining? How do firms, entrepreneurs and innovators in these industries develop knowledge and how do they draw on a variety of sources and interdisciplinary insights to advance emerging industries? In what ways do consumers and users of technologies and innovations drive advancement of emerging industries? Finally, how are emerging industries organized at different geographic scales?

The articles may also shed some light on several important critiques of relational and evolutionary economic geography theories. One of these critiques was developed by YEUNG (2005). He argues that the reasons why economic actors engage in multi-scalar relations and how their powerful actions may be constructed through networks are under-theorized. Critique on some of the evolutionary ideas is aired by MARTIN (2010) who argues that regional development may have multiple outcomes and that path dependent processes may not necessarily lead to one regional outcome such as a lock-in, but that regional economies experience ongoing evolution and change. Further, the field has traditionally neglected the role of consumers and users and GRABHER et al. (2008) call for an examination of the role of co-development of knowledge involving producers and consumers.

The collection of papers focus on emerging industries and the contributions present examples of specific countries and regions while also incorporating a global comparative perspective. The papers deal with the specific location requirements of new industries such as the wind industry in general and in a global perspec-

tive, the wind energy conversion industry in Denmark and the United States, the water recycling industry from a global perspective, the athletic and outdoor industry in the United States, and the food retail industry in Turkey. The collection is complemented by an article from the field of regional governance.

PEDRO CAMPOS SILVA and BRITTA KLAGGE present an analysis of the global wind industry. They show that the industry has developed and internationalized rapidly. Early in its development the industry was characterized by small and medium sized businesses and its origin was in the more rural areas where agricultural pioneers developed the technology. During the 1980s the industry established itself as an emerging industry primarily because of the interplay between technological improvements (e.g. Danish and German developers) and supporting public policies. During the 1990s and 2000s, the industry globalized (particularly in Asia) and in recent years it has been characterized by mergers and acquisitions. The paper shows that emerging industries do not evolve in a vacuum but that politics in the form of industrial policy can play an important role in shaping the location patterns and evolutionary dynamics. The authors not only make an important contribution to the debate around the role of public policy but also to evolutionary economic geography by way of shedding light on the discussion of path dependence.

MAX-PETER MENZEL and JOHANNES KAMMER analyze the wind turbine manufacturing industry in the United States and in Denmark. In particular, they are interested in the evolution of the industry and the question whether the type of capitalism (e.g. liberal market economy in the United States versus a more coordinated market economy in Denmark) makes a difference when it comes to the founding of new firms and therefore the evolutionary dynamics of an emerging industry. They utilize data for 188 firms and apply a regression analysis to examine the survival of firms. With this analysis they explain the various reasons why the emergence of the industry differs in the two countries. They find that institutional context matters more in Denmark than the firm-specific characteristics, which matter more in the United States. With this study, the authors make a contribution to the fields of evolutionary economic geography and entrepreneurship studies. The latter has not focused much on the influence of institutions and differences in national context.

CHRISTIAN BINZ and BERNHARD TRUFFER utilize a social network analysis to examine the scientific publication networks in the emerging water recycling industry. Their study illustrates a highly internationalized network of actors with spatial concentrations in Europe

and Asia. Interestingly, the nodes in the United States are not as strongly connected and more peripheral. They argue that studies of technological innovation systems (TIS) benefit from a multiscale geographic perspective.

HEIKE MAYER and JOSEPH CORTRIGHT present a study of the athletic and outdoor industry in Portland, Oregon (United States). They examine the role of culture, consumption and community and highlight the need to incorporate such a demand-side perspective in the study of cluster emergence. Anchored by multinational firms such as Nike, Adidas and Columbia Sportswear, the Portland-based cluster emerged primarily through spinoff processes. They find that employees and entrepreneurs play an important role as users and consumers and that the specific cultural, social and also landscape environment of the region facilitates innovation and entrepreneurship.

ALEXANDRA APPEL, MARTIN FRANZ and MARKUS HASSLER examine the Turkish food retail industry. Starting with a focus on the Swiss retail-cooperative Migros, they showcase how the Turkish market has undergone rapid changes and how it has internationalized. Migros originally entered Turkey as a result of a request of the city of Istanbul. Since its entry its Swiss parent firms divested the firm and it is now owned by a British private equity firm. The industry has experienced significant changes not only in terms of the entry of many other multinational firms, but also in terms of the introduction of new retail formats. The article contributes to the discussion about changes in the retail industry and illustrates how the strategies of multinational firms have to be examined against the backdrop of the market they are entering.

CHRISTIAN LAMOUR presents a portrait of a region in Europe that has experienced significant changes with regard to cross-border integration, regional governance and networking. The region he examined is in Luxembourg and he focuses on the development of new Euroregions in the context of the debate around new regionalism. While this paper is not directly related to the theme of this special issue, it highlights the importance of cross-border networks and the integration of regions into larger functional areas. Such a perspective on territoriality enables us to see how government actors mirror some of the multiscale relational processes advanced by economic actors.

References

- BATHELT, H. & J. GLÜCKLER (2003): Toward a relational economic geography. – In: *Journal of Economic Geography* 3, 2: 117-144.
- BOSCHMA, R.A. & J.G. LAMBOOY (1999): Evolutionary

economics and economic geography. – In: *Journal of Evolutionary Economics* 9, 4: 411-429.

FELDMAN, M. & I. LENDEL (2010): Under the lens: the geography of optical science as an emerging industry. – In: *Economic Geography* 86, 2: 147-171.

GRABHER, G., IBERT, O. & S. FLOHR (2008): The neglected king: the customer in the new knowledge ecology of innovation. – In: *Economic Geography* 84, 3: 253-280.

MARTIN, R. (2010): Roepke lecture in economic geography–rethinking regional path dependence: beyond lock-in to evolution. – In: *Economic Geography* 86, 1: 1-27.

STORPER, M. & R. WALKER (1989): *The capitalist imperative: territory, technology, and industrial growth.* – Oxford, UK, New York, NY: Basil Blackwell.

YEUNG, H.W. (2005): Rethinking relational economic geography. – In: *Transactions of the Insititute of British Geographers* 30, 1: 37-51.

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